



**F E D E R A L  
S T U D E N T A I D**  
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# **Common Origination & Disbursement Enterprise Application Integration (EAI)**

## **COD Transformation Test Plan**

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## Amendment History

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# 1 Introduction

## 1.1 Purpose

The purpose of this document is to define the EAI Testing Plan for the Common Origination & Disbursement (COD) Transformation program. This document will capture all testing phases and ensure a sound framework for testing has been established. This document is a living document and changes will continue to be made throughout EAI Development/Testing lifecycle.

## 1.2 Scope

The scope of this document includes the following:

- Define all test phases.
- Define approach for each test phase.
- Define required test data for each test phases

# 2 COD Transformation Description

The COD Transformation program is written in Java to convert XML school information to a specified record type based on the type of award. The transformation program uses XML based configuration files to define the different legacy record layout and mapping/transformation rules. For detail information on the transformation program, refer to COD Transformation Internal Design Document.

# 3 Test Phases

There are two test phases for the COD transformation that the EAI team is responsible for:

- Unit Testing
- Regression Testing

The COD Test team is responsible for executing these tests with EAI support:

- Product Testing (UAT)
- Inter-Systems Testing (IST)
- Production Readiness Testing (PRT)

## 4 Test Approach

### 4.1 Unit Testing

The scope of Unit Testing is to test each component independent of the others. The goal of Unit Testing is to ensure that all lines of code have been executed, and to isolate and resolve any issues before progressing to the next phase of testing. The general test approach for common COD transformation development is detailed below:

**Common Records:**

- Verify that the headers and trailers are added correctly
- Verify that the data provided on the input record remains unchanged on the output record
- Verify that all “ghost tags” (DeliveryInfo, LegacyInfo, etc) are removed on the output record

**Legacy Records:**

- a. Verify that the new mapping files are working as designed and meet the requirements. Test each of the legacy files with the following test cases/conditions:
  - Valid data value
  - Invalid data value
    - Invalid range (0-100)
    - Field limits:
      - Exceeds max field limit
      - Less then required length
        - ✓ Transformation error
        - ✓ Pad field with correct values (spaces, zeros, or specific characters)

Verify that edit mappings by creating edit codes (in the specified block) in the internal XML record.

Verify the results by checking that the transformation mapped the edit codes to the legacy edit code for all edits.

**Responsibility:** The EAI team developer is responsible for the completion of all tasks associated with Unit Testing.

All defects found during Unit testing will be corrected before moving onto System Integration Testing. In unusual circumstances, the defect will be documented and testing will proceed to the following phase.

### 4.2 Regression Testing

The scope of Regression Testing is to test the transformation application as a whole. The goal of Regression Testing is to ensure that complete records of any type that are produced by the COD application can be successfully transformed by the transformation application. Regression Testing follows thorough Unit Testing and is used to compare current results against past results that are known to be correct. Regression Testing also establishes a set of baseline data and results against which to compare any future Regression Tests of the transform application. The general test approach for common COD transformation development is detailed below:

**Common Records:**

- Verify that the headers and trailers are added correctly

- Verify that the data provided on the input record remains unchanged on the output record
- Verify that all “ghost tags” (DeliveryInfo, LegacyInfo, etc) are removed on the output record

**Legacy Records:**

Verify that the new configuration files are working as designed and meet the requirements. Test each of the message classes with the following test cases/conditions for both the 02-03 and the 03-04 award years:

- Valid data, for one student with no edits.
- Invalid data, for one student with no edits.
- Valid data, for multiple students with no edits.
- Invalid data, for multiple students with no edits.
- Valid data, for one student with multiple specific edits.
- Valid data, for multiple students with multiple specific edits.
- Valid data, for multiple students with no edits.
- Valid data, for one student with one batch edit.
- Valid data, for one student with multiple specific edits and one batch edit.
- Valid data, for multiple students with multiple specific edits and one batch edit.
- Any associated message classes (message classes that reference the same configuration files).
  - Valid data, for one student with no edits.

**Responsibility:** The EAI team developer is responsible for the completion of all tasks associated with Regression Testing.

All defects found during Regression Testing will be corrected before moving onto System Integration Testing. In unusual circumstances, the defect will be documented and testing will proceed to the following phase.